DETAILED ACTION

The after-final Remarks filed by Applicant on March 25, 2010 has been acknowledged. Claims 73-91 remain pending.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jeffrey Michael on April 5, 2010.

The application has been amended as follows:

Claim 73 (Currently Amended)

A system for diagnosing the quality of a reagent solution, comprising:

a reagent solution source configured to supply the reagent solution to an emissions catalyst of an internal combustion engine, means for determining a quality value corresponding to the quality of the reagent solution,

a long run averaging filter configured to receive the quality value and produce a long run average of the quality value,

a short run averaging filter configured to receive the quality value and produce a short run average of the quality value, **[and]**

a comparator configured to compare a difference between the long run average of the quality value and the short run average of the quality value to a first threshold and produce a fault value if the difference crosses the first threshold[.],

a temperature sensor configured to produce a temperature signal indicative of a temperature of the reagent solution, and

a threshold determining circuit configured to produce the first threshold as a function of the temperature signal.

Claim 74 (Cancelled)

Claim 84 (Currently Amended)

The system of claim 83 further comprising:

[a temperature sensor configured to produce a temperature signal indicative of a temperature of the reagent solution, and]

a threshold determining circuit configured to produce the first threshold and the second threshold each as a function of the temperature signal.

Allowable Subject Matter

Claims 73 and 75-91 are allowed.

The following is an examiner's statement of reasons for allowance:

James et al. (US 5,394,744) disclose a computer system coupled to a vehicle for monitoring various machineries of the vehicle, including the catalytic converter (see line 26, col. 3). The system comprises a sensor 11 for determining the efficiency of the converter, an averaging filter 15 that converts the sensor signal to a filtered value, and a comparator 17 that compares the filtered value to a threshold value and emits a fault

signal to a diagnostic indicator if the filtered value exceeds the threshold value (see Abstract).

Arsenault et al. (US 6,029,044) disclose a system for detecting a malfunctioning signal. The system comprises two filters wherein one filter is configured to isolate noise from the signal. A comparator then compares the difference of the output of the two filters to an upper threshold value and a lower threshold value, thereby eliminating noise from the calculation (see Abstract). However, neither James et al. nor Arsenault et al. disclose a temperature sensor configured to produce a temperature signal indicative of a temperature of a reagent solution fed to a catalytic converter, or a threshold determining circuit configured to produce a threshold value as a function of the temperature signal produced by said temperature sensor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL S. HYUN whose telephone number is (571)272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paul S Hyun/
Examiner, Art Unit 1797

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797